

# Indo-Italian Workshop on Organic Semiconductors

October 14 to 17, 2003

**Samtel Centre for Display Technologies, Indian Institute of Technology Kanpur**

|               | <b>Tuesday,<br/>October 14<br/>L-14</b>   | <b>Wednesday,<br/>October 15<br/>L-14</b> | <b>Thursday,<br/>October 16<br/>PBCEC</b>            | <b>Friday,<br/>October 17<br/>PBCEC</b>  |            |
|---------------|---|---|--|--|------------|
| 9:00          | <b>Registration – L14</b>   | Zamboni                                   | Lanzani  | Round Table – Indo-Italian Collaboration |            |
| 9:15          |   |   |  |  |            |
| 9:30          |   | <b>Inauguration</b>                       | Narayan  |  | Ramashesha |
| 9:45          |   |   |  |  |            |
| 10:00         |   |   |  |  |            |
| 10:15         |   |   |  |  |            |
| 10:30         |   |   |  |  |            |
| 10:45         | <b>Tea /Coffee</b>  | <b>Tea /Coffee</b>                        | <b>Tea /Coffee</b>                                   |  |            |
| 11:00         | <b>Tea /Coffee</b>  | Biscarini                                 | Tubino   | Free                                     |            |
| 11:15         | Ramashesha<br>(Opportunities and<br>Challenges in OS)   | Narasimhan                                | A. Pal   |  |            |
| 11:30         |   |   |  |  |            |
| 11:45         |   |   |  |  |            |
| 12:00         | Comoretto   | Mohapatra                                 | G.D. Sharma  |  |            |
| 12:15         |   |   |  |  |            |
| 12:30         |   |   |  |  |            |
| 12:45         |   |   |  |  |            |
| 13:00 – 14:30 | <b>LUNCH<br/>(SCDT Foyer)</b>   | <b>LUNCH<br/>(SCDT Foyer)</b>             | <b>LUNCH<br/>(VH)</b>                                | <b>LUNCH<br/>(VH)</b>                    |            |
| 14:30         | Sampietro   | Ramakrishnan                              | Kamalasanan  | Free                                     |            |
| 14:45         |   |   |  |  |            |
| 15:00         | Vetrivel  | Iannotta                                  | Periasamy  |  |            |
| 15:15         |   |   |  |  |            |
| 15:30         |   |   | Melucci  |  |            |
| 15:45         | Mazhari   | Ajayaghosh                                |  |  |            |
| 16:00         |   |   |  |  |            |
| 16:15         | <b>Tea /Coffee</b>  | Anand Biswas                              | <b>Tea /Coffee</b>                                   |  |            |
| 16:30         | Gigli   | <b>Tea /Coffee</b>                        | M. Meneghetti  |  |            |
| 16:45         |   |   |  |  |            |
| 17:00         |   | <b>Posters</b>                            |  |  |            |
| 17:15         |   |   |  |  |            |
| 17:30         |   | FREE                                      | <b>Discussion<br/>Polymers vs Small<br/>Molecule</b> | R.S. Anand                               |            |
| 17:45         |   |   | Asha Sharma  |  |            |
| 18:00         |   |   |  |  |            |
| 18:15         |   |   |  |  |            |
|               | Dance: Indian Classical<br>“Kutchipudi” by<br>Guru Jayaram<br>Rao &<br>Vanashree Rao<br>18:30 | Dinner – 19:30                            |  | Farewell – Dinner                        |            |

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*DAY-1*

*TUESDAY, October 14, 2003*

*Venue: L-14*

**9:00-9:30**

**Registration**

**9:30-11:00**

**Inauguration**

**09:32 – 09:35 hrs** *Welcome, S. Kumar*

**09:35 – 09:45 hrs** *Y.P. Kumar, DST, Government of India*

**09:45 – 09:55 hrs** *L. Gastaldi, Italian Ministry of Foreign Affairs, New Delhi*

**09:55 – 10:05 hrs** *D. Kunzru, Dean R&D, IIT Kanpur*

**10:05 – 10:15 hrs** *K.R. Sarma, Samtel Industries*

**10:15 – 10:25 hrs** *G. Lanzani, Politecnico di Milano*

**10:25 – 10:35 hrs** *S.Kumar, IIT Kanpur*

**10:35 – 10:50 hrs** *Inaugural Address – Director, IIT Kanpur*

**11:00-11:30**

**Tea/ Coffee Break**

**11:30-12:15**

**Opportunities and Challenges in Organic Semiconductors**

*S. Ramashesha (IISc Bangalore, India)*

**12:15-13:00**

**Photophysics of Polydiacetylenes: Recent Results and Perspectives**

*D. Comoretto (University of Genova, Italy)*

**13:00- 14:30**

**Lunch (SCDT Foyer)**

**14:30-15:15**

**Molecular Electronic Devices: Field Effect Transistors and Photodetectors**

*M. Sampietro, D.Natali, M.Caironi and L.Franco (Politecnico di Milano, Italy)*

**15:15-15:45**

**OLED for Lighting Applications: A Review of Interdisciplinary Approaches"**

*Parag Thakre, Anil Kumar, Asha Bhat, Rajappan Vetrivel & Rita Chattopadhyay (JFWTC, GE India, Bangalore, India)*

**15:45-16:15**

**Crosstalk in Passive Matrix OLED Displays**

*B.Mazhari (Department of EE, IIT Kanpur, India)*

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**16:15-16:45**

**Tea/Coffee Break**

**16:45-17:15**

**Nanotechnology of Functional Materials for Photonic and Biological Applications**

G. Gigli (NNL Lecce, Italy)

**18:30**

***Cultural Program***

**Indian Classical “Kutchipudi Dance” by Guru Jayaram Rao & Vanashree Rao,  
(Community Hall Auditorium)**

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*DAY-2*

*WEDNESDAY, October 15, 2003*

*Venue: L-14*

**9:00-9:45**

**Organic Thin Films for Optoelectronics and Photonics Devices**

R. Zamboni (CNR Bologna, Italy)

**9:45-10:15**

**Photoexcitation Effects and Relaxation Processes in Polymer Field Effect Transistors**

K.S. Narayan (JNCASR, Bangalore, India)

**10:15-10:45**

**Conformation Dependant White Light Emission in 1,2 –Dibenzthiazole Ethylene Stereo Isomers**

S. Sundar Manohar and Qureshi Mohammad (Material Chemistry Lab, IIT Kanpur)

**10:45- 11:15**

**Tea/ Coffee Break**

**11:15 -12:00**

**Towards Nanoscale Organic Electronics: Ultra-Thin Film Organic Transistors and Self-Organising Molecular Patterns and Nanostructures”**

F. Biscarini (CNR Bologna, Italy)

**12:00-12:30**

**Transient Electroluminescence in TPD+Alq Alloy Devices**

V.V.N.Ravi, Meghan P. Patankar, N.Periasamy, K.L.Narasimhan (TIFR, Mumbai, India)

**12:30-13:00**

**Monitoring Charges and Fields in Polymer Light Emitting Diodes: Electroabsorption and Current Transient Measurements**

Y. N. Mohapatra, Girija Samal, V. Varshney, V. Rao (IIT Kanpur)

**13:00-14:30**

**Lunch Break**

**14:30-15:00**

**Conformational Transition in Segmented Conjugated Polymers**

S. Ramakrishnan (IISc, Bangalore):

**15:00-15:45**

**Growth of Organic, Cluster Assembled and Hybrid Materials from Supersonic Molecular Beams (SuMBE) and Applications**

S. Iannotta (IFN Trento, Italy)

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15:45-16:15

**Pyrrole End-capped Conjugated Molecules: Novel Building Blocks for Organic Semiconductors**

A. Ajayghosh (RRL, Trivendrum)

16:15-16:45

**Light Emitting Polymers: Design & Synthesis**

A.K.Biswas and Swapnil Singh (Samtel Centre for Display Technologies, IIT Kanpur)

16:45-17:15

Tea/ Coffee Break

16:45-17:45

## *POSTER SESSION*

*VENUE: Samtel Research and Development Centre*

**P1:**

**Gas Sensing Properties of Polycarbazole Thin Films**

Vibha Saxena, Sipra Choudhury, S.K. Gupta, J.V. Yakhmi (BARC, Mumbai):

**P2:**

**Tweezer-type Bis-(8-Hydroxyquinoline) Derivative for Development of Novel Supramolecular Metal Complexes**

A. Mishra, S. Mukundan, N. Periasamy (TIFR, Mumbai)

**P3**

**Design & Synthesis of Organic Semi-Conductors For Different Applications**

Mahesh Roy (Defense Lab, Jodhpur):

**P4**

**Comparison of EL Overshoot in Bilayer and Alloy Devices**

V.V.N.Ravi, Meghan P. Patankar, N.Periasamy, K.L.Narasimhan (TIFR, Mumbai)

**P5**

**Design, Synthesis and Study of Novel Push-Pull Polyenes with Bis(methylthio)vinyl Donor Group as Efficient Nonlinear Optical Chromophores"**

I. Siddiqui, P.K. Mahata, H.Illa and H.Junjappa (Department of Chemistry, IIT Kanpur):

**P6**

**Environmental and Light Induced Effects on 8-Hydroxy-Quinoline Derivative Metal Complex Small Molecules**

Vivek K. Shukla, Debjit Datta, Saikat Chakraborty Thakur and Satyendra Kumar, (Department of Physics, IIT Kanpur,)

**P7**

**Techniques and Issues Involved in the Inkjet Processing of Polymers in OLED"**

Vandana Singh and Satyendra Kumar (Dept. of Physics, IIT Kanpur)

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- P8**            **Photovoltaic Study of MEH-PPV Single Layer Device**  
Girija Sankar Samal, A.K.Biswas, Y. N. Mohapatra, G. Padmanaban and S. Ramakrishnan (IIT Kanpur)
- P9**            **Synthesis and photoluminescent properties of bis (2-(2'-hydroxyl phenyl) benzthiazolato) Zinc**  
Qureshi Mohammad, S. Sundar Manoharan, Samaren P. Singh and Y.N. Mohapatra (IIT Kanpur)
- P10**           **Polymer Position Sensitive Detector**  
D. Kabra and K. S. Narayan (JNCASR, Bangalore)
- P11**           **Development of Organic Semiconducting Thin Films from Peruvulcanized Natural Rubber**  
P. Predeep and Sreeja R. (Sree Narayana College Kollam, Kerala)
- P12**           **Synthesis of Polysilane high polymers for LED applications**  
Sanjeev K. Shukla, V. Chandrasekhar, A. K. Saxena, Deepak, M. Katiyar, G. N. Mathur (IIT Kanpur)
- P13**           **Time Resolved Photoluminescence Studies of MEH-PPV and CN-PPV Thin Films**  
Ajay K. Pandey<sup>1</sup>, Awnish Triphati<sup>2</sup> and Y.N.Mohapatra<sup>1,2</sup> (IIT Kanpur)
- 17:45-18:15**  
**Discussion Polymers Vs Small Molecules**
- 19:30**  
**Dinner (House No. 4001, IIT Campus)**

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*DAY-3*

*THURSDAY, October 16, 2003*

*Venue: Pioneer Batch Continuing Education Centre (PBCEC)*

**9:00-9:45**

**Ultrafast Opto-Electronic Probing of Organic Devices**

G. Lanzani (Polytechnico di Milano, Milano, Italy)

**9:45-10:15**

**Electron-Hole Recombination and Triplet-Triplet Scattering in Conjugated Polymers**

S. Ramashesha (IISc, Bangalore, India)

**10:15-10:45**

**On Some Design Aspects In Organic Spintronics**

P. Ganguly (NCL, Pune, India)

**10:45-11:15**

**Tea/ Coffee Break**

**11:15-12:00**

**Novel Light Sources Based on Organometallic Complexes : Phenomena and Applications**

R. Tubino (University of Milan, Bicocca, Italy)

**12:00-12:30**

**Organic Photovoltaic Devices: Influence of Cell Architecture**

A. Pal (IACS, Calcutta, India)

**12:30-13:00**

**Organic Photovoltaic Devices**

G.D. Sharma (Jodhpur University, Jodhpur, India)

**13:00-14:30**

**Lunch Break**

**14:30-15:00**

**Influence of Charge Injection and Transport on the Performance of Organic Light Emitting Diodes**

M. N. Kamalasanan (NPL, New Delhi, India)

**15:00-15:30**

**Photoluminescence of Spin-Cast Films of Alq Derivatives**

A. Mishra, N. S. Haram, N. Periasamy (TIFR, Mumbai, India):

**15:30-16:15**

**Thiophene Based Molecular Matrerials: Synthesis, Properties and Functions**

M. Melucci (CNR Bologna, Italy)

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**16:15-16:45**

**Tea/ Coffee Break**

**16:45-17:30**

**Phonons in Organic Molecular Conductors and in Single Well Carbon Nanotubes**

M. Meneghetti (University of Padova, Italy)

**17:30-18:00**

**Reverse Leakage Currents in Polymer Light Emitting Diodes**

R.S.Anand , Asha Awasthi and J.Narain (Department of Electrical Engineering and Samtel Research & Development Centre, IIT Kanpur)

**18:00-18:30**

**Polysilanes for Light Emitting Diodes**

Asha Sharma, U.Lourderaj, Deepak, N.Sathyamurthy and Monica Katiyar (IIT Kanpur):

***DAY-4***

***FRIDAY, October 17, 2003***

***Venue: Pioneer Batch Continuing Education Centre (PBCEC)***

**9:00**

***Round Table: Indo-Italian Collaboration***

**10:45**

**Tea/ Coffee Break**

**13:00**

**Lunch**

**19:00**

**Farewell Dinner (Visitors Hostel)**